Broadband Mapping Risk Management Plan

Project Name:	Broadband Mapping		
Agency:	Information Technology Dept		
Business Unit/Program Area:	Telecommunications		
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Project Manager:	Dirk Huggett		
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Risk Management

1. INTRODUCTION

1.1. Purpose and Objectives

Risk Management is the systematic process of identifying, analyzing, and responding to project risks. It includes maximizing the probability and consequences of positive events and minimizing the probability and consequences of adverse events to project objectives. A risk management plan defines how a project team will handle risks to achieve that goal.

2. RISK-RELATED DEFINITIONS

There are a number of terms used in risk management that need we need to define to ensure clear communications.

2.1. Risk

An uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives. Risk is often a measure of the inability to achieve overall project objectives within defined project requirements and constraints and has three components: (1) the probability of occurrence, (2) the impact of the risk on the program, and (3) the time horizon during which the consequences will occur if the risk is not mitigated.

2.2. Probability of Occurrence

The following table defines the probability of occurrence.

Table 1 – Risk Probability of Occurrence

Probability range	Natural language expression	Probability value used for calculations	Numeric score
91% through 99%	"Very likely" to occur	95%	5
61% through 90%	"Probably" will occur	76%	4
41% through 60%	"May occur" about half of the time	51%	3
11% through 40%	"Unlikely" to occur	26%	2
1% through 10%	"Very unlikely" to occur	5%	1

2.3. Risk Impact

The following table defines the risk impact categories and terms. For positive risks, consider the opposite of the impact description. The examples would remain the same except having a positive impact to the project.

Table 2 – Risk Impact

Comment [dah1]: Review table w/ Duane to confirm examples

Impact Description	Example	Natural language expression	Numeric score
An event that, if it occurred, would cause project failure (inability to achieve minimum acceptable requirements)	schedule adjustment >2 mo cost impact > 40%	Critical	10
An event that, if it occurred, would cause major cost/ schedule increases. Secondary requirements may not be achieved.	schedule adjustment >1 mo cost impact >20%	Serious	8
An event that, if it occurred, would cause moderate cost/ schedule increases, but important requirements would still be met.	schedule adjustment > 2wks cost impact > 10%	Moderate	5
An event that, if it occurred, would cause only a small cost/schedule increase. Requirements would still be achieved.	schedule adjustment > 1wk cost impact > 5%	Minor	3
An event that, if it occurred, would have no effect on the project.	schedule adjustment < 2d cost impact <5%	Negligible	1

2.4. Risk Score

The risk score is a value calculated that is the product of probability of occurrence and impact. You use the score to compare risks as part of the risk prioritization process. **Table 3** is the matrix used to develop the risk score. The values range from 1 (very low exposure) to 50 (very high exposure). Although there are no specific break points in the risk exposure ranking, those risks with an exposure value of less than 20 are generally considered low risks, those risks with an exposure value between 20 and 39 are generally considered moderate risks, and those risks with an exposure value between 40 and 50 are generally considered high risks. The definitions of Low, Moderate, and High are as follows:

- Low Risk: Has little or no potential for increase in cost, disruption of schedule, or degradation of performance. Actions within the scope of the planned project and normal management attention should result in controlling acceptable risk. No response plans will be made for these risks. The project will monitor for them and manage them as they come up.

- Moderate Risk: May cause some increase in cost, disruption of schedule, or degradation of performance. Special action and management attention may be required to control acceptable risk. The project will do some response planning for these risks.
- High Risk: Likely to cause significant increase in cost, disruption of schedule, or degradation of performance. Significant additional action and high priority management attention will be required to control acceptable risk. The project will do in-depth response plans for these risks.

Positive risks can use the same table and descriptions except instead of trying to avoid the risk, we will endeavor to make the risk occur and gain the positive impact.

Table 3 – Risk Score

	Impact				
Probability	Negligible (1)	Minor (3)	Moderate (5)	Serious (8)	Critical (10)
Very likely to occur (5)	5	15	25	40	50
Probably will occur (4)	4	12	20	32	40
About 50% chance of occuring (3)	3	9	15	24	30
Unlikely (2)	2	6	10	16	20
Very unlikely to occur (1)	1	3	5	8	10

3. ORGANIZATION

This section defines the roles and responsibilities for risk management.

3.1. Project Management Office/Enterprise Project Management Office

The state of North Dakota's Enterprise Project Management Office (EPMO) has issued a project risk management best practices guide that this project will use to form the basis of the risk management process.

3.2. Roles & Responsibilities

Table 4 – Roles & Responsibilities

Project Manager: The overall coordinator of the Risk Management Program.	• Maintaining this Risk Management Plan • Maintaining the Risk Management Data Base and distributing updates • Briefing the team on the status of risks • Tracking efforts to reduce moderate and high risk to acceptable levels • Providing risk management training • Facilitating risk assessments and • Preparing risk briefings, reports, and documents required for Project Reviews

Broadband Mapping Risk Management Plan

Project Team: Responsible for identifying, monitoring and managing risks	• Coordinate with SMEs to review and recommend to the Project Manager changes on the overall risk management approach based on lessons learned. • Quarterly, or as directed, participate in the update to project risk assessments made during the previous review period. • Review and recommend any changes to the risk assessments made and the risk mitigation plans proposed. • Report new risks to the Project Manager via e-mail • Ensure that risk is a required topic at each Project Meeting • Accomplish assigned mitigation tasks and report status/completion of mitigation actions to the Project Manager for entry into the database.
Subject Matter Experts (SMEs): Responsible for implementing risk management tasks per this plan.	• Review and recommend to the Project Manager changes on the overall risk management approach based on lessons learned. • Quarterly, or as directed, participate in the update to program risk assessments made during the previous quarter. • Review and recommend any changes to the risk assessments made and the risk mitigation plans proposed. • Report new risks to the Project Manager via e-mail • Accomplish assigned mitigation tasks and report status/completion of mitigation actions to the Project Manager for entry into the database.

4. RISK MANAGEMENT STRUCTURE AND PROCEDURES

This section describes the risk management process and provides an overview of the risk management approach.

4.1. Risk Assessment

Size:	With a budget of $1,355,028 this project is a large sized project
Complexity:	This project involves a vendor with multiple subcontractors, requires acquiring data from multiple telecommunications providers, and is using Federal stimulus funds requiring detailed reporting. We rate this High complexity.
Importance to Business:	This project is determined to be of high priority within the agency.
Visibility:	This project is in a high visibility position due to the stimulus funding and the uploading of data to the Federal government.
Agency History:	Agency has not done a lot of projects using Federal grants. However, the agency regularly performs complex IT projects.
Skill Levels	
Vendor:	The vendor has experience with GIS systems but is using a number of subcontractors.
Project Mgr.:	Has managed several complex projects in this agency.
Agency Project Team	Has an experienced GIS Coordinator, but the rest of the team has little background in GIS.
Summary	
Risk Management Effort Decision:	It has been determined that the project will spend a moderate amount of time performing the following risk assessment activities.

Comment [dah2]: Project team needs to make this assessment with sponsor approval

4.2. Identification

What	Owner	Time Estimate
Brainstorming: The core project team will meet with vendor representatives to review the project plan and then, using the brainstorming technique, they will be asked to identify any opportunities they see. We will then ask them to identify any risks. In addition to the above, the core project team will perform a risk breakdown structure (RBS). This involves stepping through the Work Breakdown Structure (WBS) task by task and identifying risks & opportunities associated with the task.	Dirk will facilitate the session Brandy will document the session Dirk will document results	1-1 hour session 3 hours documentation

The project will use the following categories of risk in this process:

Schedule
- Schedule Creation
- Timescale

Budget

Personnel
- Project Resources
- Contractors

Project Management
- Change Mgmt
- Process
- Project Size and Duration

Expectations
- End Users
- Customer/Sponsor
- Project Vendors
- Commitment

Technological

Objectives
- Product
- Requirements

Environment
- **Internal**
  - Organization and Management
  - Development Environment
  - Design and Implementation
- **External**
  - Politics

4.3. Qualitative Analysis

What	Owner	Time Estimate
Review: The PM will ask the core team to review the risks to determine if they understand the risks enough to score. The team should notify the PM of any risk they are unsure of and the PM can clarify or get more information from the originator.	Dirk	1-1 hour session This is a continuation of the identification session
Scoring: The project team will determine the impact and probability scores for each risk to calculate the risk score. They will use the tables in Section 2 of this document.		
Threshold 1: Anything with a probability of "very likely" (5) will be considered a fact and managed in the project plan. Threshold 2: Any thing with a risk score of 20 or below will be included on the non-critical risk list.		
Any risk not covered by threshold 1 that scores 30 or greater will be passed to Quantitative Analysis.		

4.4. Quantitative Analysis

What	Owner	Time Estimate
A moderate risk effort indicates that an Expected Monetary Value (EMV) Analysis will be performed for each of the risked passed onto this phase.		
Analyze: The project team and SMEs from the effected divisions will meet to perform a basic EMV for each risk. A decision tree will be developed for a risk as needed.	Project Team SMEs	2 hours

4.5. Risk Response Planning

What	Owner	Time Estimate
All risks scoring greater than 20 will be assigned out to the core project team, SMEs, and management if necessary. Each risk owner will be assigned to develop strategies avoid, if possible, or mitigate/transfer the risk. These responses should be documented in the risk register. Risk owners are given 1 week to complete.	Team SMEs Management (if needed)	2 hours 5 day lag

4.6. Risk Monitoring and Control

What	Owner	Time Estimate
Monitoring: Risk owners are responsible for monitoring their risks and notifying the PM via e-mail when a trigger occurs and that the response plan has been initiated.	Risk Owners	4 hours
New Risk Identification: Any stakeholder can identify additional risks. The stakeholder should notify the project manager of the new risk (or possible risk) via e-mail.	Stakeholders	1 hour
Audits: The PM will be responsible for overseeing risk activities and ensuring the risk register is updated.	PM	2 hours per month
Review: The project team will review the project's risks monthly(in a team meeting).	Project Team	.25 hours per month
Reporting: Risks will be reported in two ways. 1st the PM maintain a Risk Log in the project repository. The Risk Log will contain a list of risks that are active on the project, the priority of the risk, the assignment, and a current status. 2nd the monthly Status report and the quarterly Large Project Oversight report will contain a summary of the Risk Log and any new risks identified and added to the Risk Register.	PM	1 hour per month

5. RISK REGISTER

The project's risk register is located in the variance report found in the project repository at (P:\Broadband Mapping Project\04 Execution) and covers the following points.

- Date Identified – The date the risk was identified.
- Status – Identifies whether the risk is potential, active, or closed.
- Risk Description – A description of the risk.
- Risk Probability – The likelihood that the risk will occur. See the "Evaluating Risk Probability" section of the below for possible values. In this category the descriptive words Low, Moderate, or High will be used.
- Risk Impact – The effect o the project objects if the risk event occurs. See the "Evaluating Risk Impact" section of the table below for possible values. In this category the descriptive words Low, Moderate, or High will be used.

- Risk Score – Reflects the severity of the risks effect on objectives. The risk score is determined by multiplying the risk probability and risk impact values. The intent is to assign a relative value to the impact on project objectives if the risk in question should occur.
- Risk Assignment – Person(s) responsible for the risk if it should occur.
- Agreed Response – The strategy that is most likely to be effective.
    - *Avoidance* – Risk avoidance entails changing the project plan to eliminate the risk or condition or to protect the project objectives from its impact.
    - *Transference* – Risk transference is seeking to shift the consequence of a risk to a third party together with ownership of the response. Transferring the risk simply gives another party responsibility for its management; it does not eliminate it.
    - *Mitigation* – Risk mitigation seeks to reduce the probability and/or consequences of an adverse risk event to an acceptable threshold. Taking early action to reduce the probability of a risk's occurring or its impact on the project is more effective than trying to repair the consequences after it occurs.
    - *Acceptance* – This technique indicates that the project team has decided not to change the project plan to deal with a risk or is unable to identify any other suitable response strategy.
- Risk Response Plan – Specific actions to enhance opportunities and reduce threats to the project's objectives.